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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,114

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Chul-Sik Yoon

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EXAMINER

BATISTA, MARCOS

ART UNIT

PAPER NUMBER

2617

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DELIVERY MODE

02/15/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,114	Applicant(s) YOON ET AL.	
	Examiner MARCOS BATISTA	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Action is in response to Applicant's amendment filed on 12/10/2010. Claims 1-14 are still pending in the present application. This Action is made **FINAL**.

Response to Arguments

2. Applicant's arguments and amendments filed on 12/10/2010 have been fully considered but they are not persuasive.

After carefully revising the office action pertinent to the present response and remarks, the following main point(s) have been identified:

- 1) The Applicant, at page 6 lines 1-5 of the Applicant's remarks, states the following:

"Regarding independent Claim 1, Eklund fails to disclose, "transmitting state control (timing and power offset adjustment) information based on a channel state to the subscriber station", Eklund discloses a base station "command[ing] a timing advance and a power adjustment" to the subscriber station "[b]ased on the arrival time of the initial ranging request and the measured power of the signal." Thus, Eklund fails to anticipate Claim 1"

Regarding point 1), Eklund, at the following citations, discloses:

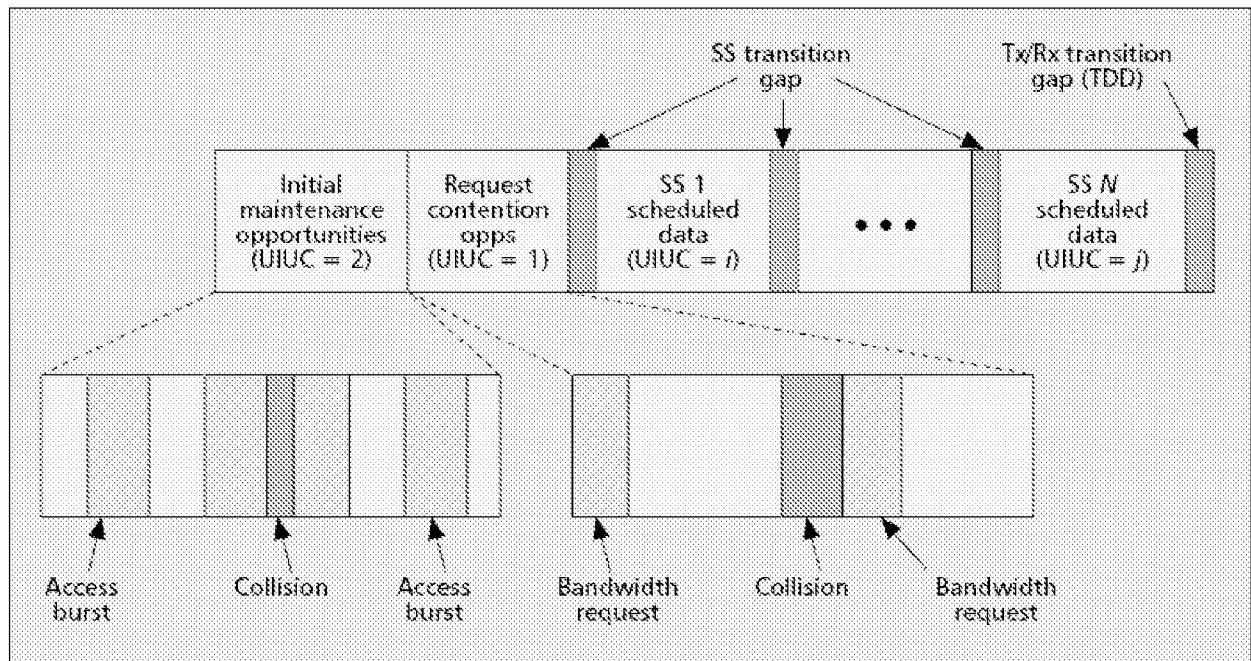
Page 103 column 2 lines 4-13

"During initial access, the SS performs initial power leveling and ranging using ranging request (RNG-REQ) messages transmitted in initial maintenance windows. **The adjustments to the SS's transmit time advance, as well as power adjustments, are returned to the SS in ranging response (RNG-RSP) messages.** For ongoing ranging and power adjustments, the BS may transmit unsolicited RNG-RSP messages commanding the SS to adjust its power or timing."

Page 106 column 1 lines 35-49

"Based on the arrival time of the initial ranging request and **the measured power of the signal**, the BS commands a timing advance and a power adjustment to the SS in the ranging response. The response also provides the SS with the basic and primary

management CIDs. Once the timing advance of the SS transmissions has been correctly determined, the ranging procedure for fine-tuning the power can be performed using invited transmissions.”



■ Figure 2. The uplink subframe structure.

As can be seen in the cited portions above, Eklund discloses transmitting state control (The adjustments to the SS's transmit time advance, as well as power adjustments, are returned to the SS in ranging response (RNG-RSP) messages) information based on the subscriber channel state (Based on... and the measured power of the signal). The measured power of the signal is used to determine the state of the channel. Now, as can be seen in figure 2, attached above, the initial access is part of an uplink subframe structure that includes a bandwidth request. So, the transmission of state control in the ranging response from the base station is inherently in response to a bandwidth request.

2) The Applicant, at page 6 lines 6-12 of the Applicant's remarks, states the following:

"Regarding independent Claim 9, *Eklund* fails to disclose "receiving state control information from the base station *in response to the bandwidth request code*" as recited independent Claim 9. The Examiner contends that *Eklund* teaches this limitation when "during initial access, the [Subscriber Station] performs initial power leveling and ranging using ranging request (RNG-REQ) messages transmitted in initial maintenance windows" (*Eklund*, page 102, col. 2, lines 4-7). However, "during initial access" is not the same as "in response to the bandwidth request code." Thus, for at least this reason, *Eklund* fails to anticipate Claim 9."

Regarding point 2), *Eklund*, at the following citation, discloses:

Page 103 column 1 line 67 – column 2 line 3

"Burst profiles for the downlink are each tagged with a Downlink Interval Usage Code (DIUC). Those for the uplink are each tagged with an Uplink Interval Usage Code (UIUC)."

In "Regarding to point 1)" above, I showed that the base station transmits state control information and the subscriber station receives such information based on the channel state and in response to a bandwidth request. As can be seen in the cited portion above, the base station and the mobile station communicates using a usage code (i.e., bandwidth request code). Also, at page 103 column 2 lines 14-19, *Eklund* discloses:

"During initial ranging, the SS also **requests to be served in the downlink** via a particular burst profile by transmitting its choice of DIUC to the BS. The choice is based on received downlink **signal quality measurements** performed by the SS before and during initial ranging."

The above teaching clearly means that: 1) the subscriber station transmits bandwidth request in its initial access and 2) that the base stations takes into account the signal quality in order to accommodate the request.

Therefore, the argued features are written such that they read upon the cited reference(s).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-6, 9 and 12** rejected under 35 U.S.C. 102(b) as being anticipated by Carl Eklund et al. (NPL: IEEE C802.16-02/05 “A Technical Overview of the WirelessMAN™ Air Interface for Broadband Wireless Access”), hereafter “Eklund.”

Consider **claim 1**, Eklund discloses a method for a preamble-based bandwidth request of a base station, the method comprising: receiving a ranging code from a subscriber station (**see page 103, col. 1 line 67 – col. 2 line 26**); transmitting a first ranging response message to the subscriber station (**see page 103, col. 2 lines 4-13**); receiving a bandwidth request code from a subscriber station (**see page 104, col. 2 lines 29-41, page 105, col. 2 lines 9-16**); transmitting state control information based on a channel state to the subscriber station in response to the bandwidth request code (**see page 103, col. 2 lines 4-19, page 106, col. 1 lines 35-39**); and allocating an uplink resource for transmission of a bandwidth request message to the subscriber station (**see page 105, col. 1 lines 1-13 and lines 61-71**).

Consider **claim 2** in view of claim 1, Eklund also discloses wherein transmitting the state control information includes transmitting the state control information using a response message (**see page 103, col. 2 lines 10-13**).

Consider **claim 3** in view of claim 2, Eklund also discloses wherein the response message includes information for discrimination of a subscriber station which transmitted the bandwidth request code (**see page 103, col. 1 line 64 – col. 2 line 3 and col. 2 lines 17-26**).

Consider **claim 4** in view of claim 3, Eklund also discloses wherein the information for discrimination of the subscriber station includes at least one of a frame number, a slot number, a sub-channel number, and a code number (**see page 103, col. 1 line 64 – col. 2 line 3**).

Consider **claim 5** in view of claim 4, Eklund also discloses wherein allocating the uplink resource includes allocating the uplink resource for transmission of the bandwidth request message to the subscriber station using the information for discrimination of the subscriber station (**see page 103, col. 1 line 64 – col. 2 line 3, page 105, col. 1 lines 1-13 and lines 61-71**).

Consider **claim 6** in view of claim 2, Eklund also discloses wherein the response message includes a second ranging response message (**see page 103, col. 2 lines 10-13**).

Consider **claim 9**, Eklund discloses a method for a preamble-based bandwidth request of a subscriber station, the method comprising: transmitting a ranging code from a subscriber station (**see page 103, col. 1 line 67 – col. 2 line 26**); receiving a first ranging response message to the subscriber station (**see page 103, col. 2 lines 4-13**); transmitting a bandwidth request code to the base station (**see page 104, col. 2 lines 29-41, page 105, col. 2 lines 9-16**); receiving channel state control information from the base station in response to the bandwidth request code, and controlling the state of a subscriber station based on the state control information (**see page 103, col. 2 lines 4-13, page 106, col. 1 lines 35-39**); receiving an uplink resource allocated for transmission of a bandwidth request message from the base station (**see page 105, col. 1 lines 1-13 and lines 61-71**); and performing modulation and channel coding based on channel state information received from the base station, and transmitting uplink data using the bandwidth request message (**see page 99, col. 1 lines 48-66, page 106, col. lines 14-21 and 45-52**).

Consider **claim 12** in view of claim 9, Eklund also discloses wherein receiving the state control information includes controlling at least one of timing, power, and frequency as the state of the subscriber station (**see page 103, col. 2 lines 4-13, page 106, col. 1 lines 35-39**).

Consider **claim 13** in view of claim 9, Eklund also discloses wherein the state control information includes timing and power offset adjustment information (see page 103, col. 2 lines 4-13).

Consider **claim 14** in view of claim 9, Eklund also discloses wherein the state control information includes timing and power offset adjustment information (see page 103, col. 2 lines 4-13).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claims 7, 8, 10 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Carl Eklund et al. (NPL: IEEE C802.16-02/05 "A Technical Overview of the WirelessMAN™ Air Interface for Broadband Wireless Access"), hereafter "Eklund," in view of Mizell et al. (US 20020077097 A1), hereafter "Mizell."

Consider **claim 7** in view of claim 1, Eklund does not particular refer to wherein transmitting the state control information includes allocating a temporary connection identifier to the subscriber station which transmitted the bandwidth request code, and transmitting the allocated temporary connection identifier using the response message.

Mizell, in analogous art, teaches wherein transmitting the state control information includes allocating a temporary connection identifier to the subscriber station which transmitted the bandwidth request code, and transmitting the allocated temporary connection identifier using the response message (see pars. 0014 lines 4-11,

0015 lines 1-6, 0028 lines 6-28 Mizell teaches a temporary link identifier provided to a mobile terminal for communicating with a base station).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Eklund and have it include the teachings of Mizell. The motivation would have been in order to provide a unique connection identifier between a mobile station and a base station during a particular communication session (see pars. 0014 lines 4-11, 0015 lines 1-6, 0028 lines 6-28).

Consider **claim 8** in view of claim 7, Mizell also teaches wherein allocation of the uplink resource includes allocating the uplink resource for transmission of the bandwidth request message to the subscriber station using the temporary connection identifier (see pars. 0014 lines 4-11, 0015 lines 1-6, 0028 lines 6-28). The motivation would have been in order to provide a unique connection identifier between a mobile station and a base station during a particular session (see pars. 0014 lines 4-11, 0015 lines 1-6, 0028 lines 6-28).

Consider **claim 10** in view of claim 9, Eklund does not particular refer to wherein receiving the state control information includes receiving a temporary connection identifier allocated together with the state control information from the base station.

Mizell, in analogous art, teaches wherein the step (b) includes receiving a temporary connection identifier allocated together with the state control information from the base station (see pars. 0014 lines 4-11, 0015 lines 1-6, 0028 lines 6-28). The

motivation would have been in order to provide a unique connection identifier between a mobile station and a base station during a particular session (see pars. 0014 lines 4-11, 0015 lines 1-6, 0028 lines 6-28).

Consider **claim 11** in view of claim 10, Mizell also teaches wherein receiving the uplink resource includes receiving the allocated uplink resource using the temporary connection identifier received in the step (b) (see pars. 0014 lines 4-11, 0015 lines 1-6, 0028 lines 6-28). The motivation would have been in order to provide a unique connection identifier between a mobile station and a base station during a particular session (see pars. 0014 lines 4-11, 0015 lines 1-6, 0028 lines 6-28).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2617

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Marcos Batista, whose telephone number is (571) 270-5209. The Examiner can normally be reached on Monday-Friday from 8:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached at (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

/Marcos Batista/
Examiner
02/03/2011

/LESTER KINCAID/

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Supervisory Patent Examiner, Art Unit 2617